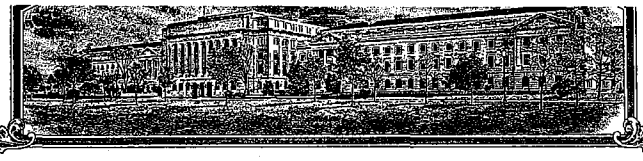
No. 200000121



THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Holden's Foundation Seeds L.L.C.

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED DISTINCT VARIETY OF SEXUALLY REPRODUCED, OR TUBER PROPAGATED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF TWENTY YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR IMPORTING IT, OR EXPORTING IT, OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE ABOVE PURPOSE , OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

CORN, FIELD

'LH287'

In Testimony Whereof, I have hereunto set my hand and caused the seal of the Plant Variety Protection Office to be affixed at the City of Washington, D.C. this thirtieth day of January, in the year two thousand two.

Attest:

Commissioner
Plant Variety Protection Office
Agricultural Marketing Service

Secretary of Agriculture

REPRODUCE LOCALLY. *Include form number and date on all reproductions.* FORM APPROVED - OMB NO. 0581-

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
SCIENCE AND TECHNOLOGY DIVISION - PLANT VARIETY PROTECTION OFFICE

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

(Instructions and information collection burden statement on reverse)

The following statements are made in accordance with the Privacy Ac 1974 (5 U.S.C. 552a) and the Paperwork Reduction Act (PRA) of 199

Application is required in order to determine if a plant variety protec certificate is to be issued (7 U.S.C. 2421). Information is held confide until certificate is issued (7 U.S.C. 2426).

1. NAME OF APPLICANT(S) *(as it is to appear on the Certificate)*
HOLDEN'S FOUNDATION SEEDS L.L.C.

2. TEMPORARY DESIGNATION OR EXPERIMENTAL NUMBER
Ex4674

3. VARIETY NAME
LH287

4. ADDRESS *(Street and No., or R.F.D. No., City, State, and ZIP Code, and Country)*
503 S. MAPLEWOOD AVENUE
PO BOX 839
WILLIAMSBURG, IA 52361

5. TELEPHONE *(include area code)*
(319)668-1100

6. FAX *(include area code)*
(319)668-2453

FOR OFFICIAL USE ONLY

PVPO NUMBER 2000 0121

FILING DATE: 1/7/00

7. GENUS AND SPECIES NAME
ZEA MAYS

8. FAMILY NAME *(Botanical)*
GRAMINEAE

FEES RECEIVED
FILING AND EXAMINATION FEE: $ 2450.00
DATE 1-7-00
CERTIFICATION FEE: $ 320.00
DATE 1/22/02

9. CROP KIND NAME *(Common name)*
CORN, FIELD

10. IF THE APPLICANT NAMED IS NOT A "PERSON", GIVE FORM OF ORGANIZATION *(corporation, partnership, association, etc.) (Common name)*
LIMITED LIABILITY COMPANY

11. IF INCORPORATED, GIVE STATE OF INCORPORATION

12. DATE OF INCORPORATION
DECEMBER 1, 1997

13. NAME AND ADDRESS OF APPLICANT REPRESENTATIVE(S), IF ANY, TO SERVE IN THIS APPLICATION AND RECEIVE ALL PAPERS
MR. MARK ARMSTRONG
HOLDEN'S FOUNDATION SEEDS L.L.C.
503 S. MAPLEWOOD AVENUE
PO BOX 839
WILLIAMSBURG, IA 52361

14. TELEPHONE *(include area code)*
(319)668-1100

15. FAX *(include area code)*
(319)668-2453

16. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED *(Follow instructions on reverse)*

- a. [X] Exhibit A. Origin and Breeding History of the Variety
- b. [X] Exhibit B. Statement of Distinctness
- c. [X] Exhibit C. Objective Description of the Variety
- d. [X] Exhibit D. Additional Description of the Variety *(Optional)*
- e. [X] Exhibit E. Statement of the Basis of the Applicant's Ownership
- f. [X] Voucher Sample *(2,500 viable untreated seeds of, for tuber propagated varieties verification that tissue culture will be deposited and maintained in an approved public repository)*
- g. [X] Filing and Examination Fee ($2,450), made payable to "Treasurer of the United States" *(Mail to PVPO)*

17. DOES THE APPLICANT SPECIFY THAT SEED OF THIS VARIETY BE SOLD BY VARIETY NAME ONLY, AS A CLASS OF CERTIFIED SEED? *(See Section 83(a) of the Plant Variety Protection Act)*
☐ YES *(If "yes," answer items 18 and 19 below)* ☒ NO *(If "no," go to item 20)*

18. DOES THE APPLICANT SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS?
☐ YES ☐ NO

19. IF "YES" TO ITEM 18, WHICH CLASSES OF PRODUCTION BEYOND BREEDER SEED
☐ FOUNDATION ☐ REGISTERED ☐ CERTIFIED

20. HAS THE VARIETY OR A HYBRID PRODUCED FROM THE VARIETY BEEN RELEASED, USED, OFFERED FOR SALE, OR MARKETED IN THE U.S. OR OTHER COUNTRIES?
☐ YES *(If "yes," give names of countries and dates)* ☒ NO

21. The applicant(s) declare that a viable sample of basic seed of the variety will be furnished with application and will be replenished upon request in accordance with such regulations as may be applicable, or for a tuber propagated variety a tissue culture will be deposited in a public repository and maintained for the duration of the certificate.

The undersigned applicant(s) is(are) the owner(s) of this sexually reproduced or tuber propagated plant variety, and believe(s) that the variety is new, distinct, uniform, and stable as required in Section 42, and is entitled to protection under the provisions of Section 42 of the Plant Variety Protection Act.

Applicant(s) is(are) informed that false representation herein can jeopardize protection and result in penalties.

SIGNATURE OF APPLICANT *(Owner(s))*		SIGNATURE OF APPLICANT *(Owner(s))*	
Gary Arthur			
NAME *(Please print or type)*		NAME *(Please print or type)*	
GARY ARTHUR			
CAPACITY OR TITLE	DATE	CAPACITY OR TITLE	DATE
PRESIDENT	1/3/00		

STD-470 (03-98) *(Previous editions are to be destroyed)* *(See reverse for instructions and information collection burden st*

1

Origin and Breeding History of the Inbred

Exhibit A

LH287 was developed from the single cross of LH212Ht x LH185 by selfing and using the pedigree system of pant breeding. Yield, stalk quality, root quality, disease tolerance, late plant greenness, late plant intactness, ear retention, pollen shedding ability, silking ability and corn borer tolerance were the criteria used to determine the rows from which ears were selected during the development of LH287.

LH212Ht and LH185 the progenitors of LH287, are both proprietary field corn inbred lines of Holden's Foundation Seeds, LLC, of Williamsburg, Iowa. In 1991, Holden's applied for plant variety protection of LH212Ht. On December 31, 1992, LH212Ht was awarded certificate #9100070. A utility patent #5,276,260 issued by the United States Patent Office on January 4, 1994 also protects LH212Ht. In 1993, Holden's applied for plant variety protection of LH185. On February 28, 1995 LH185 was awarded certificate #9400036. A utility patent #5,416,261 issued by the United States Patent Office on March 16, 1995 also protects LH185. Also enclosed is a copy of a letter from the USDA Seed Branch confirming that no other field corn inbreds have been named, 'LH287'.

On the following pages are a summary and description of the development of LH287. Also included are copies of pages from Holden's Foundation Seeds, LLC nursery books. The rows associated with the development of LH287 have been highlighted. Please note the "Ht" designation following LH212 has been dropped for convenience from the nursery book pages.

LH287 has shown uniformity and stability for all traits described in Exhibit C. It has been self-pollinated and ear-rowed a sufficient number of generations, with careful attention to uniformity of plant type to ensure homozygosity and phenotypic stability. The line has been increased both by hand (Iowa 1997 and 1998) and sibbed in isolated production fields (Hawaii 1999 and Iowa 1999) with continued observations for uniformity. Terry J. Foley, the originating plant breeder, has observed LH287 all four generations it has been increased. The line is uniform, stable and no variant traits have been observed or are anticipated in LH287.

Origin and Breeding History of the Inbred 2000001 21
LH287=Ex4674=LH212 x LH185

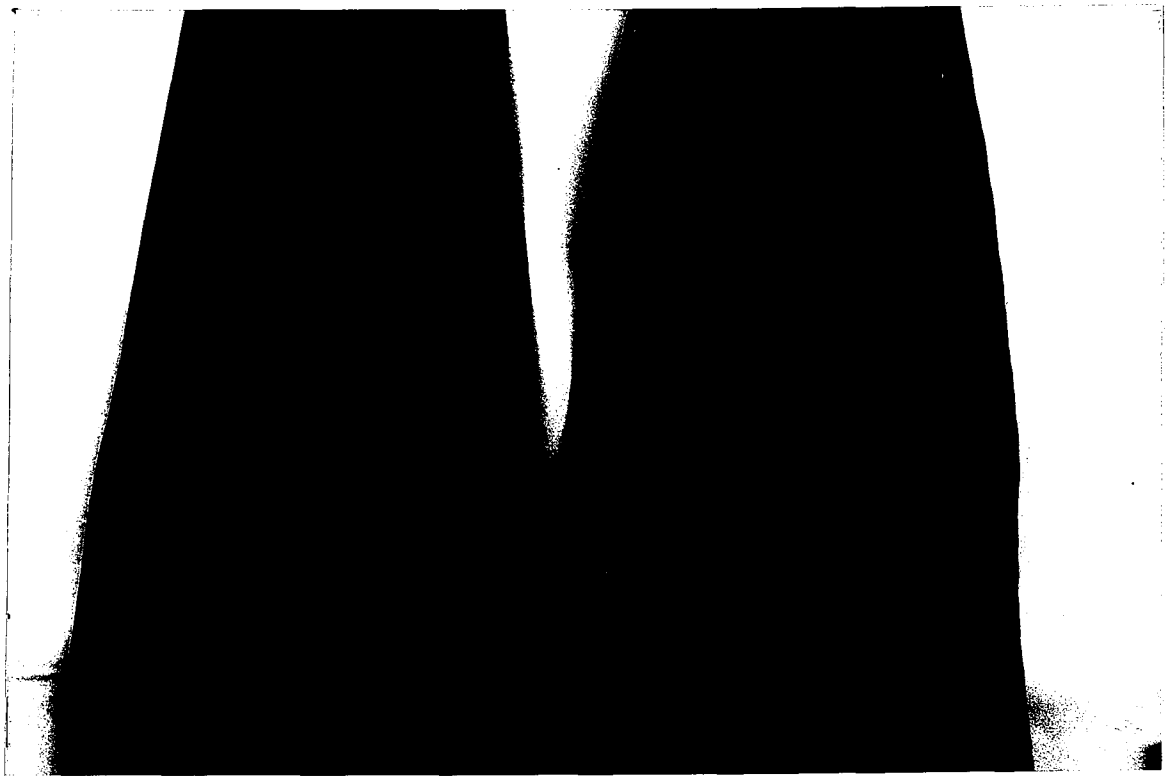
Field/Row	Pedigree	Location	Year
Collingwood	LH287	Iowa	1999
16	LH287	Hawaii	1999
26830-26839	Ex4674	Iowa	1998
18807	LH212 x LH185 @7	Iowa	1997
1698	LH212 x LH185 @6	Iowa	1996
12628	LH212 x LH185 @5	Hawaii	1996
8996	LH212 x LH185 @4	Iowa	1995
2100	LH212 x LH185 @3	Hawaii	1995
10107	LH212 x LH185 @2	Iowa	1994
3178	LH212 x LH185 @1	Hawaii	1994
44486	LH212 x LH185 @0	Iowa	1993
34439 34436	LH212 LH185	Hawaii	1993

Novelty Statement

Exhibit B

LH287 is most similar to LH185. However, the most distinguishing difference is the presence of mottling or speckling on the leaf of LH287. The leaves of LH287 are mottled with yellow-green spots and is not the result of chemical, disease or insect damage as LH287 has been observed at several locations with different planting dates and environmental conditions. In each case this characteristic has been consistent at all locations. The mottling has not been observed on the leaves of LH185. The leaf color of LH287 is slightly lighter green than the leaf color of LH185. When using Munsell Color Charts for Plant Tissues as a reference, the leaf color of LH287 would be classified as 5GY 3/4 and the leaf color of LH185 would be classified as 7.5GY 3/4.

The pericarp of the LH287 kernel is darker in color than the pericarp of the LH185 kernel. When using the Munsell Color Charts for Plant Tissues as a reference, the pericarp color of LH287 would be classified as 10R 5/6 and the pericarp color of LH185 would be classified as 10R 7/4.



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FORM SD-470-28
(9-1-92)

2000000121

EXHIBIT C
(Corn: Maize)

United States Department of Agriculture, Agricultural Marketing Service
Science Division, Plant Variety Protection Office
National Agricultural Library Building, Room 500
Beltsville, MD 20705

OBJECTIVE DESCRIPTION OF VARIETY
CORN (*Zea mays* L.)

Name of Applicant(s)	Variety Seed Source	Variety Name or Temporary Designation
HOLDEN'S FOUNDATION SEEDS, L.L.C	IOWA 1998	LH287

Address (Street & No., or R.F.D. No., City, State, Zip Code and Country)	FOR OFFICIAL USE
503 SOUTH MAPLEWOOD AVE WILLIAMSBURG, IA 52361	PVPO Number

Place the appropriate number that describes the varietal characters typical of this inbred variety in the spaces below. Right justify whole numbers by adding leading zeroes if necessary. Completeness should be striven for to establish an adequate variety description. Traits designated by a '*' are considered necessary for an adequate variety description and must be completed.

COLOR CHOICES (Use in conjunction with Munsell color code to describe all color choices; describe #25 and #26 in Comments section):

01=Light Green	06=Pale Yellow	11=Pink	16=Pale Purple	21=Buff
02=Medium Green	07=Yellow	12=Light Red	17=Purple	22=Tan
03=Dark Green	08=Yellow-Orange	13=Cherry Red	18=Colorless	23=Brown
04=Very Dark Green	09=Salmon	14=Red	19=White	24=Bronze
05=Green-Yellow	10=Pink-Orange	15=Red & White	20=White Capped	25=Variegated (Describe)
				26=Other (Describe)

STANDARD INBRED CHOICES (Use the most similar (in background and maturity) of these to make comparisons based on grow-out trial data):

Yellow Dent Families:

Family	Members
B14	CM105, A632, B64, B68
B37	B37, B76, H84
B73	N192, A679, B73, NC268
C103	Mo17, Va102, Va35, A682
Oh43	A619, MS71, H99, Va26
WF9	W64A, A554, A654, Pa91

Yellow Dent (Unrelated):
Co109, ND246,
Oh7, T232
W117, W153R
W182BN

White Dent:
CI66, H105, Ky228

Sweet Corn:
C13, Iowa5125, P39, 2132

Popcorn:
SG1533, 4722, HP301, HP7211

Pipecorn:
Mo15W, Mo16W, Mo24W

1. TYPE: (describe intermediate types in Comments section)

* 2 1=Sweet 2=Dent 3=Flint 4=Flour 5=Pop 6=Ornamental 7=Pipecorn

Standard Inbred Name Mo17
2

2. REGION WHERE DEVELOPED IN THE U.S.A.:

* 2 1=Northwest 2=Northcentral 3=Northeast 4=Southeast 5=Southcentral 6=Southwest 7=Other _____

Standard Seed Source IOWA STATE UNIV.
5

3. MATURITY (In Region Best Adaptability: show Heat Unit formula in "Comments" section):

	DAYS	HEAT UNITS		DAYS	HEAT UNITS
*	70	1390.0	From emergence to 50% of plants in silk	76	1567.5
*	70	1390.0	From emergence to 50% of plants in pollen	72	1453.5
	___	____.__	From 10% to 90% pollen shed	___	____.__
(*)	___	____.__	From 50% silk to optimum edible quality	___	____.__
	___	____.__	From 50% silk to harvest at 25% moisture	___	____.__

4. PLANT:

	Standard Deviation	Sample Size		Standard Deviation	Sample Size
* 168.6 cm Plant Height (to tassel tip)	10.09	50	208.7	7.73	50
* 52.9 cm Ear Height (to base of top ear node)	4.72	50	94.7	7.12	50
111.1 cm Length of Top Ear Internode	1.24	50	11.3	.82	50
0.0 Average Number of Tillers	0.0	50	0.0	0.0	50
* 1.0 Average Number of Ears per Stalk	0.0	50	1.0	0.0	50

2 Anthocyanin of Brace Roots: 1=Absent 2=Faint 3=Moderate 4=Dark

1

5

5. LEAF:	Standard Deviation	Sample Size	Standard Deviation	Sample Size
* 103 cm Width of Ear Node Leaf	.52	50	95 .60	50
* 700 cm Length of Ear Node Leaf	9.47	50	701 1.92	50
* 5 Number of leaves above top ear	1.39	50	5 .31	50
32 degrees Leaf Angle (measure from 2nd leaf above ear at anthesis to stalk above leaf)	6.32	50	37 9.75	50
* 02 Leaf Color (Munsell code 5GY 3/4)			02 (Munsell code 7.5GY 3/4)	
2 Leaf Sheath Pubescence (Rate on scale from 1=none to 9=like peach fuzz)			2	
5 Marginal Waves (Rate on scale from 1=none to 9=many)			4	
6 Longitudinal Creases (Rate on scale from 1=none to 9=many)			3	

6. TASSEL:	Standard Deviation	Sample Size	Standard Deviation	Sample Size
* 5 Number of Primary Lateral Branches	1.39	50	7 1.39	50
43 Branch Angle from Central Spike	13.63	50	44 10.20	50
* 343 cm Tassel Length (from top leaf collar to tassel tip)	4.23	50	447 2.96	50
7 Pollen Shed (Rate on scale from 0=male sterile to 9=heavy shed)			7	
07 Anther Color (Munsell code 5Y 8/8)			07 (Munsell code 2.5GY 8/6)	
01 Glume Color (Munsell code 5GY 7/6)			02 (Munsell code 5GY 5/6)	
1 Bar Glumes (Glume Bands): 1=Absent 2=Present			1	

7a. EAR (Unhusked Data):	
* 01 Silk Color (3 days after emergence) (Munsell code 2.5GY 8/4)	26 Olive Green ~~09~~ (Munsell code 5Y 7/4)
01 Fresh Husk Color (25 days after 50% silking) (Munsell code 5GY 7/6)	01 (Munsell code 2.5GY 7/6)
21 Dry Husk Color (65 days after 50% Silking) (Munsell code 7.5 YR 7/4)	21 (Munsell code 7.5YR 7/4)
* 1 Position of Ear at Dry Husk Stage: 1=Upright 2=Horizontal 3=Pendent	1
5 Husk Tightness (Rate on scale from 1=very loose to 9=very tight)	5
2 Husk Extension (at harvest): 1=Short (ears exposed) 2=Medium (<8 cm) 3=Long (8-10 cm beyond ear tip) 4=Very Long (>10 cm)	2

7b. EAR (Husked Ear Data):	Standard Deviation	Sample Size	Standard Deviation	Sample Size
* 161 cm Ear Length	1.34	50	204 1.31	50
* 421 mm Ear Diameter at mid-point	2.10	50	385 1.70	50
975 gm Ear Weight	27.21	50	1180 16.58	50
* 14 Number of Kernel Rows	.97	50	11 1.01	50
2 Kernel Rows: 1=Indistinct 2=Distinct			2	
1 Row Alignment: 1=Straight 2=Slightly Curved 3=Spiral			1	
88 cm Shank Length	1.46	50	134 1.84	50
1 Ear Taper: 1=Slight 2=Average 3=Extreme			2	

Note: Use chart on first page to choose color codes for color traits.

8. KERNEL (Dried):	Standard Deviation	Sample Size	Standard Deviation	Sample Size
11.3 mm Kernel Length	.80	50	11.3 .60	50
9.8 mm Kernel Width	.50	50	9.5 .50	50
5.0 mm Kernel Thickness	.60	50	5.0 .40	50
71.6 % Round Kernels (Shape Grade)	5.05	15	78.1 2.76	15
1 Aleurone Color Pattern: 1=Homozygous 2=Segregating			1	
(*) 19 Aleurone Color (Munsell code 2.5Y 8/2)			19 (Munsell code 2.5Y 8/2)	
* 08 Hard Endosperm Color (Munsell code 7.5YR 6/10)			08 (Munsell code 2.5Y 8/6)	
* 03 Endosperm Type: 1=Sweet (su1) 2=Extra Sweet (sh2) 3=Normal Starch 4=High Amylose Starch 5=Waxy Starch 6=High Protein 7=High Lysine 8=Super Sweet (se) 9=High Oil 10=Other			03	
298 gm Weight per 100 Kernels (unsized sample)	.37	15	315 .61	15

9. COB:	Standard Deviation	Sample Size	Standard Devaition	Sample Size
* 299 mm Cob Diameter at mid-point	1.50	50	271 1.30	50
19 Cob Color (Munsell code 2.5Y 8/2)			14 (Munsell code 10R 5/6)	

10. DISEASE RESISTANCE (Rate from 1 (most susceptible) to 9 (most resistant): leave blank if not tested; leave Race or Strain Options blank if polygenic):

A. Leaf Blights, Wilts, and Local Infection Diseases	
__ Anthracnose Leaf Blight (*Colletotrichum graminicola*)	__
__ Common Rust (*Puccinia sorghi*)	__
__ Common Smut (*Ustilago maydis*)	__
8 Eyespot (*Kabatiella zeae*)	__
__ Goss's Wilt (*Clavibacter michiganense* spp. *nebraskense*)	__
__ Gray Leaf Spot (*Cercospora zeae-maydis*)	__
9 Helminthosporium Leaf Spot (*Bipolaris zeicola*) Race 3	8 Race 3
9 Northern Leaf Blight (*Exserohilum turcicum*) Race 1	8 Race 1
__ Southern Leaf Blight (*Bipolaris maydis*) Race ____	__ Race ____
__ Southern Rust (*Puccinia polysora*)	__
__ Stewart's Wilt (*Erwinia stewartii*)	__
__ Other (Specify) _____	__ _____
B. Systemic Diseases	
__ Corn Lethal Necrosis (MCMV and MDMV)	__
__ Head Smut (*Sphacelotheca reiliana*)	__
__ Maize Chlorotic Dwarf Virus (MCDV)	__
__ Maize Chlorotic Mottle Virus (MCMV)	__
__ Maize Dwarf Mosaic Virus (MDMV) Strain ____	__ Strain ____
__ Sorghum Downy Mildew of Corn (*Peronosclerospora sorghi*)	__
__ Other (Specify) _____	__ _____
C. Stalk Rots	
__ Anthracnose Stalk Rot (*Colletotrichum graminicola*)	__
__ Diplodia Stalk Rot (*Stenocarpella maydis*)	__
__ Fusarium Stalk Rot (*Fusarium moniliforme*)	__
__ Gibberella Stalk Rot (*Gibberella zeae*)	__
__ Other (Specify) _____	__ _____
D. Ear and Kernel Rots	
__ Aspergillus Ear and Kernel Rot (*Aspergillus flavus*)	__
__ Diplodia Ear Rot (*Stenocarpella maydis*)	__
__ Fusarium Ear and Kernel Rot (*Fusarium moniliforme*)	__
__ Gibberella Ear Rot (*Gibberella zeae*)	__
__ Other (Specify) _____	__ _____

Note: Use chart on first page to choose color codes for color traits.

11. INSECT RESISTANCE (Rate from 1 (most susceptible) to 9 (most resistant): leave blank if not tested):

	Standard Deviation	Sample Size		Standard Deviation	Sample Size
__ Banks Grass Mite (*Oligonychus pratensis*)			__		
Corn Earworm (*Helicoverpa zea*)					
__ Leaf-Feeding			__		
Silk Feeding :					
____.__ mg larval wt.	_____	____	____	_____	____
__ Ear Damage			__		
__ Corn Leaf Aphid (*Rhopalosiphum maidis*)			__		
__ Corn Sap Beetle (*Carpophilus dimidiatus*)			__		
European Corn Borer (*Ostrinia nubilalis*)					
__ 1st Generation (Typically Whorl Leaf Feeding)			__		
__ 2nd Generation (Typically Leaf Sheath-Collar Feeding)			__		
Stalk Tunneling :					
____.__ cm tunneled/plant	_____	____	____	_____	____
Fall Armyworm (*Spodoptera frugiperda*)					
__ Leaf-Feeding			__		
Silk-Feeding :					
____.__ mg larval wt.	_____	____	____	_____	____
__ Maize Weevil (*Sitophilus zeamaize*)			__		
__ Northern Rootworm (*Diabrotica barberi*)			__		
__ Southern Rootworm (*Diabrotica undecimpunctata*)			__		
Southwestern Corn Borer (*Diatraea grandiosella*)					
__ Leaf Feeding			__		
Stalk Tunneling :					
____.__ cm tunneled/plant	_____	____	____	_____	____
__ Two-spotted Spider Mite (*Tetranychus urticae*)			__		
__ Western Rootworm (*Diabrotica virgifera virgifera*)			__		
__ Other (Specify) _____			__	_____	

12. AGRONOMIC TRAITS:

7 Stay Green (at 65 days after anthesis) (Rate on a scale from 1=worst to 9=excellent.)	7
0.0 % Dropped Ears (at 65 days after anthesis)	0.0
0.0 % Pre-anthesis Brittle Snapping	0.0
4.3.0 % Pre-anthesis Root Lodging	0.0
0.0 % Post-anthesis Root Lodging (at 65 days after anthesis)	0.0
____.__ Kg/ha Yield of Inbred Per Se (at 12-13% grain moisture)	____

13. MOLECULAR MARKERS: (0=data unavailable: 1=data available but not supplied: 2=data supplied)

0 Isozymes 0 RFLP's 0 RAPD's

REFERENCES:

Butler, D.R. 1954. A System for the Classification of Corn Inbred Lines. PhD Thesis, Ohio State University.
Emerson, R.A., G.W. Beadle, and A.C. Fraser. 1935. A Summary of Linkage Studies in Maize. Cornell A.E.S., Mem. 180.
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Jugenheimer, R.W. 1976. Corn: Improvement, Seed Production, and Uses. John Wiley & Sons, New York.
McGee, D.C. 1988. Maize Diseases. APS Press, St. Paul, MN. 150 pp.
Munsell Color Chart for Plant Tissues. Macbeth, P.O. Box 230, Newburgh, N.Y. 12551-0230
The Mutants of Maize. 1968. Crop Science Society of America, Madison, WI.
Shurtleff, M.C. 1980. Compendium of Corn Diseases. APS Press, St. Paul, MN. 105 pp.
Sprague, G.F., and J.W. Dudley (Editors). 1988. Corn and Corn Improvement, Third Edition. Agronomy Monograph 18. ASA, CSSA, SSSA, Madison, WI.
Stringfield, G.H. Maize Inbred Lines of Ohio. Ohio A.E.S., Bul. 831. 1959.
U.S. Department of Agriculture. 1936, 1937. Yearbook.

COMMENTS (eg. state how heat units were calculated, standard inbred seed source, and/or where data was collected. Continue in Exhibit D):

$$GDD = \frac{Tmax + Tmin}{2} - 50°F$$

Tmax < 86°F

Tmin > 50°F

STANDARD SEED SOURCE: IOWA STATE UNIVERSITY

DATA COLLECTED @ WILLIAMSBURG, IA 1999

Additional Description of the Inbred

Exhibit D

LH287 is a medium season field corn inbred line that flowers approximately 2 similar to LH185. It appears to be a very good pollinator.

LH287 contributes superior yield potential and good stress tolerance to its hybrids. Hybrids containing LH287 tend to display a consistent girthy ear and improved plant health than LH185 in comparable crosses. LH287 has shown excellent combining ability with members of the Stiff Stalk family, but should be used in combination with Stiff Stalk inbreds that have very good fall root strength.

Notes from

Exhibit C: After some thought and evaluation, I have concluded that the reason for the large standard deviations in my statistical analysis is poor experimental design. I neglected to take into account the effect the end plants in the row have in my analysis. One to sometimes four plants at the end of each row have a dramatic effect on the standard deviation of the individual plants being evaluated. My understanding of this effect on this statistical function and its contribution to variance components was poor. To correct this flaw in my analysis, I will not allow my technician to measure these end plants. I will also more closely monitor the growth and uniformity of the individual plants in the row being evaluated.

Preliminary

Search Results: LH287 and CM105 differ in cob color. The cob color of LH287 is white (2.5Y 8/2) while the cob color of CM105 is red (10R 4/6). LH287 flowers on average later than CM105. Enclosed is flowering data averaged over three years from two of our research locations indicating LH287 flowers later than CM105.

	Iowa 1998-2000				Minnesota 1998-2000			
Inbred	Days to		GDUs to		Days to		GDUs to	
	50% Poll	50% Silk	50% Poll	50% Silk	50% Poll	50% Silk	50% Poll	50% Silk
LH287	78	78	1518	1507	82	82	1551	1560
CM105	70	71	1304	1344	72	74	1343	1385

SMS 11/20/01

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U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE

EXHIBIT E
STATEMENT OF THE BASIS OF OWNERSHIP

The following statements are made in accordance with the Privacy Act o 1974 (5 U.S.C. 552a) and the Paperwork Reduction Act (PRA) of 1995 .

Application is required in order to determine if a plant variety protectio certificate is to be issued (7 U.S.C. 2421). Information is held confidentia until certificate is issued (7 U.S.C. 2426).

1. NAME OF APPLICANT(S)	2. TEMPORARY DESIGNATION OR EXPERIMENTAL NUMBER	3. VARIETY NAME
HOLDEN'S FOUNDATION SEEDS L.L.C.	Ex4674	LH287

4. ADDRESS *(Street and No., or R.F.D. No., City, State, and ZIP Code, and Country)*	5. TELEPHONE *(include area code)*	6. FAX *(include area code)*
503 S. MAPLEWOOD AVENUE PO BOX 839 WILLIAMSBURG, IA 52361	(319)668-1100	(319)668-2453

7. PVPO NUMBER 200000121

8. Does the applicant own all rights to the variety? *Mark an "X" in appropriate block.* If no, please explain. [X] YES [ ] NO

9. Is the applicant *(individual or company)* a U.S. national or U.S. based company? [X] YES [ ] NO
If no, give name of country _____

10. Is the applicant the original owner? [X] YES [ ] NO *If no, please answer the following:*

a. If original rights to variety were owned by individual(s), is (are) the original owner(s) a U.S. national(s)?
[ ] YES [ ] NO *If no, give name of country* _____

b. If original rights to variety were owned by a company, is the original owner(s) a U.S. based company?
[ ] YES [ ] NO *If no, give name of country* _____

11. Additional explanation on ownership *(If needed, use reverse for extra space):*

PLEASE NOTE:

Plant variety protection can be afforded only to owners (not licensees) who meet one of the following criteria:

1. If the rights to the variety are owned by the original breeder, that person must be a U.S. national, national of a UPOV member country, or nationa of a country which affords similar protection to nationals of the U.S. for the same genus and species.
2. If the rights to the variety are owned by the company which employed the original breeder(s), the company must be U.S. based, owned by nationals of a UPOV member country, or owned by nationals of a country which affords similar protection to nationals of the U.S. for the same genus and species.
3. If the applicant is an owner who is not the original owner, both the original owner and the applicant must meet one of the above criteria.

The original breeder/owner may be the individual or company who directed final breeding. See Section 41(a)(2) of the Plant Variety Protection Act for definition.

According to the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OM control number. The valid OMB control number for this information collection is 0581-0055. The time required to complete this informatio collection is estimated to average 10 minutes per response, including the time for reviewing instructions, searching existing data sources, gatherin and maintaining the data needed, and completing and reviewing the collection of information.

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To file a complaint, write the Secretary of Agriculture, U.S. Department of Agriculture, Washington, D.C. 20250, or call 1-800-245-6340 (voice) o (202) 720-1127 (TDD). USDA is an equal employment opportunity employer.